

OPINIONS AND DECLARATIONS RENDERED BY THE INTER- NATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the Commission

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OPINION 222

Designation, under the Plenary Powers, of a type species for the genus *Tremataspis* Schmidt, 1866 (Class Cephalaspidomorphi) in harmony with accustomed usage



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INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

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OPINION 222

DESIGNATION, UNDER THE PLENARY POWERS, OF A TYPE SPECIES FOR THE GENUS "TREMATASPIS" SCHMIDT, 1866 (CLASS CEPHALASPIDOMORPHI) IN HARMONY WITH ACCUSTOMED USAGE

RULING :—(1) Under the Plenary Powers, all type selections for the genus *Tremataspis* Schmidt, 1866 (Class Cephalaspidomorphi) made prior to the present Ruling are hereby set aside and *Tremataspis schmidti* Rohon, 1892, is designated as the type species of this nominal genus.

(2) The generic name *Tremataspis* Schmidt, 1866 (gender of name: feminine), with the type species designated under (1) above, is hereby placed on the *Official List of Generic Names in Zoology* as Name No. 653.

(3) The specific name *schmidti* Rohon, 1892, as published in the combination *Tremataspis schmidti*, is hereby placed on the *Official List of Specific Names in Zoology* as Name No. 32.

I.—THE STATEMENT OF THE CASE

On 14th May 1938 Dr. George M. Robertson (*Dartmouth College, Hanover, New Hampshire, U.S.A.*) submitted to the International Commission on Zoological Nomenclature the following application for the use of the Plenary Powers to designate for *Tremataspis* Schmidt, 1866 (Class Cephalaspidomorphi), a genus based upon a misidentified type species, a type species in harmony with accustomed usage :—

Proposed suspension of the "Règles" for "Tremataspis" Schmidt, 1866 (Class Cephalaspidomorphi, Order Osteostraci)

By GEORGE M. ROBERTSON

(*Department of Biology, Dartmouth College, Hanover, New Hampshire*)

I wish to submit to the Commission the problem of nomenclature of the Ostracoderm genus *Tremataspis* Schmidt, 1866, *Verh. Russ. min. Ges.*, St. Petersburg. (2) 1 : 233, asking for suspension of the Rules on the grounds that more confusion would result from their application than from setting them aside.

In 1856 Pander (1) described as a new species *Cephalaspis schrenckii* from the Upper Silurian of Oesel. Ten years later, F. Schmidt (2), having acquired a few specimens from the same locality, and regarding them as conspecific with Pander's species, founded the genus *Tremataspis* Schmidt. Since he regarded his material as conspecific with Pander's *Cephalaspis schrenckii*, he adopted the trivial name *schrencki*. He was unable at that time to find the specimens on which Pander's species had been based.

By 1892, when J. V. Rohon (3) published an extensive account of *Tremataspis* Schmidt, three specimens of the Pander species had been discovered. Rohon found them specifically distinct from the specimens which Schmidt had described. He, therefore, gave Schmidt's material the name *Tremataspis schmidtii* and left Pander's species as *Tremataspis schrenckii*.

The taxonomic error came with the next publication by Schmidt (4). In this he recognised the validity of Rohon's distinction between his and Pander's material, but restored Pander's to *Cephalaspis schrenckii*. As I understand these matters, a genus is not founded on a specimen or on specimens, but on a species. One cannot, then, legitimately remove a type species from a genus without reducing the generic name to the synonymy. Since Pander's species was the type of *Tremataspis* Schmidt, that name should have been relegated to synonymy, *i.e.* should have followed its type species. Schmidt's material should not have been left as *Tremataspis schmidtii* Rohon but should have been given a new generic name.

In Rohon's next contribution (5) to the literature on *Tremataspis* he agreed with Schmidt in removing the *schrenckii* species from the genus *Tremataspis* and proceeded to discuss the TREMATASPIDAE, overlooking the taxonomic error.

This tangled nomenclature has escaped the notice of all who have dealt with *Tremataspis* or with "*Cephalaspis schrenckii*", the latest offender being the present writer (6). However, in working through the material in the Patten collection at Dartmouth College, I discovered 57 specimens of the Pander species. Examination of these specimens demonstrated to my satisfaction that the species represented a genus of its own. I proceeded to describe it and give it a new generic name, *Witaaspis*, from the quarry near Rotsiküllä in which the fossils were found. The manuscript was submitted to Dr. Romer of Harvard. In looking over the account, he discovered the infraction of taxonomic rules and kindly called my attention to it.

If taxonomic procedure is to be followed, the Pander species, instead of receiving a new generic name, should once more become *Tremataspis schrenckii*, while the various species now known as *Tremataspis* should be given a different generic name.

Schmidt and Rohon identified a number of Pander's other species with *Tremataspis schmidti*. These other species Pander had founded on small fragments of shields. Their microscopic structure, as seen in thin sections, resembles that of *Tremataspis* shields. However, they do not seem to me to resemble *Tremataspis* any more closely than they do *Cephalaspis*, and, since a number of genera of Osteostraci occur together in the formation, it is not sufficiently established that these Pander fragments belong to one rather than to some other of these genera. I would question their identification as *Tremataspis* too much to regard them as possible genotypes, whose generic designation should replace *Tremataspis*.

In the International Code, there is a provision made for suspension of the Rules in certain cases.¹ In the present instance, it seems to me that the inconvenience which would result from adherence to the rules would more than offset the advantage resulting from correcting Schmidt's error. The designation "*Tremataspis*" has attached to the polished shields from Oesel for some 72 years. To redescribe Pander's "*Cephalaspis schrenckii*" and *Tremataspis* and to change the genus and family names of what we have known as *Tremataspis* to something different only makes for confusion.

It appears to the writer that in this case we have a very good instance in which "the strict application of the Rules will clearly result in greater confusion than uniformity".¹ I, therefore, suggest that the Rules be suspended in this case, leaving us the well-established *Tremataspis* with *Tremataspis schmidti* Rohon as the genotype, and giving the Pander species the new generic name *Witaaspis* Robertson, 1939, *J. Geol.* 47(6) : 652.

References :

1. PANDER, C., 1856, "Monographie der fossilen Fische des Silurischen Systems der Russischen-baltischen Gouvernements," St. Petersb. : 47 pl. 4, fig. 2.
2. SCHMIDT, F., 1866, "Ueber *Thyestes verrucosus* Eichwald und *Cephalaspis schrenckii* Pander, nebst einer Einleitung über das Vorkommen silurischer Fischreste auf der Insel Oesel." *Verh. russ. min. Ges. St. Pétersb.* (2)1.
3. ROHON, J. V., 1892, "Die Obersilurische Fische von Oesel. I. Theil. Thyestidae und Tremataspidae." *Mém. Acad. imp. Sci. St. Pétersb.* (7) 38(13) : 61.
4. SCHMIDT, F., 1893, "Ueber neue silurische Fischfunde auf Oesel." *Neues Jahrb. für Mineralogie* 1 : 99.
5. ROHON, J. V., 1894, "Zur Kenntniss der Tremataspiden." *Mel. Geol. et Pal. Bull. Acad. imp. Sci. St. Pétersb.* 1.

¹ See Declaration 5 (1943, *Opinions and Declarations rendered by the International Commission on Zoological Nomenclature* 1 : 31—40).

6. ROBERTSON, G. M., 1938, "The Tremataspidae." *Amer. J. Sci.* (4) 35 : 172—206, 273—296.

II.—THE SUBSEQUENT HISTORY OF THE CASE

2. The present application, which had been addressed by Dr. Robertson to the late Dr. C. W. Stiles was forwarded on 6th June 1938 to Mr. Francis Hemming who in 1936 had succeeded Dr. Stiles in the Office of Secretary to the Commission. On receipt in London, these papers were given the Registered Number Z.N.(S.)123. It had not been found possible to advance the consideration of this case by the time that the outbreak of war in Europe in September 1939 led to the evacuation of the records of the International Commission from London to the country as a precaution against the risk of destruction through air raids. The Secretariat in London was re-opened in 1942, and steps were immediately taken to establish the *Bulletin of Zoological Nomenclature* as a means for bringing to the attention of zoologists applications submitted to the International Commission for decision. Work was at once started on outstanding applications with a view to arranging for their publication in the newly established *Bulletin*. The present application was sent to the printer in October 1944, but, owing to difficulties arising from paper rationing, shortage of labour at the printing works and similar causes, publication did not actually take place until 28th February 1947 (*Bull. zool. Nomencl.* 1 : 237—238).

3. The publication of Dr. Robertson's application in the *Bulletin* elicited three communications. These, in order of receipt, were :—(1) a letter dated 8th April 1947, from the late Dr. Th. Mortensen (*Universitetets Zoologisk Museum, Copenhagen*) (2) a letter dated 6th November 1947 notifying the decision by the Joint Committee on Zoological Nomenclature for Paleontology in America to support Dr. Robertson's proposal ; (3) a letter dated 19th March 1948 from Dr. Richard E. Blackwelder (*United States National Museum, Washington, D.C., U.S.A.*), expressing the view that the evidence brought forward in this application was insufficient but not commenting upon the application itself.

4. *Comment by Dr. Th. Mortensen (Universitetets Zoologisk Museum, Copenhagen)* :—In a letter dated 8th April 1947 Dr. Th. Mortensen (*Universitetets Zoologisk Museum, Copenhagen*) indicated his support for Dr. Robertson's proposal by writing the word "Yes".

5. *Comment by the Joint Committee on Zoological Nomenclature for Paleontology in America* : The view of the Joint Committee on Zoological Nomenclature for Paleontology in America on this case was submitted in a letter dated 6th November 1947 from Dr. J. Brookes Knight (*Research Associate, United States National Museum, Washington, D.C., U.S.A.*), who at that time was Chairman of the Joint Committee. The following is the text of that letter :—

Subject : Proposed suspension of the "Règles" for "Tremataspis" Schmidt, 1866. (Bull. zool. Nom., vol. 1, pt. 10, p. 237.)

At the instigation of Prof. Alfred S. Romer, the Chairman of the Joint Committee on Zoological Nomenclature for Paleontology in America on September 26th, 1947, submitted to the membership of the Committee for consideration and approval a resolution drawn by Prof. Romer on the above subject. Since it contains some points that may be relevant to the Commission's consideration of Prof. Robertson's petition the Chairman's letter laying the Resolution before the Committee is quoted :—

Apparently both Prof. Scott and I overlooked this proposal. Prof. Romer has called it to my attention and has suggested a Resolution on it that I now lay before you for action. I shall quote Romer's remarks in full because they represent the viewpoint of those who are rather extreme in their deprecation of the Law of Priority, which is, after all, the very heart of the *Règles*. The Plenary Powers were granted the Commission expressly to mitigate the harshness of the Law of Priority through special action of the Commission in cases where it can be demonstrated to the Commission that the enforcement of the Law will "result in greater confusion than uniformity." (*Opinions and Declarations, Etc.*, Vol. 1, pt. 5, [*Declaration 5*] pp. 31—40).

It is fairly clear from reading the *Opinions* adopted by the Commission under its Plenary Powers that "greater confusion than uniformity" does not refer primarily to confusion in a small group of specialists some of whom refuse to abide by the *Règles*, but to "confusion" amongst the non-specialist consumers of the specialists' product; stratigraphers, physiologists, physicians,

etc., and students using widely employed text books in which the illegally employed name forms an important part. Specialists are accustomed to accommodating themselves to changes of zoological names, by far the greatest part of which are the result of taxonomic progress ; the splitting of large, polyphyletic genera and species, for example. The specialist can accommodate himself as readily to name changes caused by rectification of previously illegal nomenclature as to those caused by taxonomic progress, and by all means should do so. The consumer, however, if the name in question is in wide use by non-specialists and is "deeply embedded" in general literature, is especially disturbed by the changing of names for any cause, and changes for purely legalistic reasons are understandably very irritating and confusing to him. But even in specialistic literature there are cases in which suspension seems justified. For example, the petition on *Fistulipora Rafinesque* vs *Fistulipora McCoy*, which is before you.

Now in the present case, Robertson seems to have had in preparation a manuscript in which he was revising the taxonomy of the TREMATASPIDAE and was preparing to split off a group of species as a new genus *Witaaspis*. This in itself involves a change of names which no-one seems to have found objectionable. But when Dr. Romer quite rightly pointed out to him that the name *Tremataspis* Schmidt legally applied to this newly recognised genus and that the genus that had long passed under this name is the one that legally needs a name, objections are raised and a suspension of the *Règles* is asked for.

As far as one can see from Robertson's petition there is no apparent reason that he could not have followed the *Règles* for he gives no evidence that the name *Tremataspis* has any deep hold on any group other than on a small specialistic one. However, Robertson's petition was seemingly written long ago when the Commission was moribund for various regrettable reasons and was only published this year. In the meantime Robertson very naturally was forced to a decision and took action in the sense of his petition. His paper appeared in 1939 (but *Witaaspis* is still of doubtful validity since Robertson failed to designate its genotype). Furthermore, it is my understanding that considerable literature employing Robertson's nomenclature has appeared since and that Romer's text-book, at least, follows it. This must be reckoned with. Further, Romer states in his letter that "*Tremataspis* is frequently cited in general and elementary works in zoology and anatomy" in its old and invalid sense. This is the most important of all in support of suspension for it involves "consumer industries". It is to be regretted that there is no allusion to it in Robertson's petition. Romer does not document his statement but he is definitely an authority who knows whereof he speaks on such matters and I think we can accept it without question.

I now quote below Romer's remarks from his letter to me of September 17th 1947, including the Resolution he suggests on which I would like to have your votes by October 15th.

I disagree heartily with Gayle Scott's lament that the Commission is doing too much suspending. Contrariwise, here's for more and better changes, in the name of decency, common sense and regard for the general scientific public rather than the petty legalistic quibblings of the specialist who thinks he owns a special field and that the meanings of names are things that should be kept as dark as possible.

Incidentally, if we are to consider all petitions on fossils, what about Robertson's on *Tremataspis*. The case is almost exactly similar to that of *Schwagerina* (i.e. misidentification of material upon which the concept of the genus was based.) Here, however, we can nip the trouble in the bud, and save the anguish of the *Schwagerina* case. "*Tremataspis*" is a genus frequently cited in general and elementary works in zoology and anatomy, and strict adherence to the Rules would certainly cause great confusion. Would a resolution such as the following be appropriate?

RESOLVED, that the Joint Committee on Zoological Nomenclature for Paleontology in America support the petition of George M. Robertson that the Rules be suspended for *Tremataspis* Schmidt, and that the generic name *Tremataspis* Schmidt, 1866 be placed on the *Official List* with *Tremataspis schmidtii* Rohon, 1892 as its genotype.

A further important consideration that is mentioned by neither Robertson nor Romer is that the family name TREMATASPIDAE would fall as a synonym of CEPHALASPIDAE, and a new family name would be needed if the *Règles* are not suspended.

The vote of the Committee was 7 members (Simpson, Cooper, Moore, Keen, Reeside, and Knight) for approval. Romer cast no ballot but since he proposed the resolution is counted in the affirmative. Opposed to the resolution were 3 members, Wells, Palmer and Frizzell. Stenzel was away and Newell preoccupied with other matters so that neither voted.

Simpson, voting the affirmative, commented as follows: "On Romer's resolution to support Robertson's petition regarding *Tremataspis*—I vote "aye", with applause for Romer's wish for more and better suspending of the Rules."

Comments of those voting the negative were as follows:—

Wells—Nay, but it is too bad Robertson allowed this to come about.

Frizzell:—I am forced to vote nay, with the suggestion that the Commission's attention be brought to the following points: (a) Robertson is in error in regarding a *specific name* as the type of a genus.

The evidence presented in the petition indicates that this is a case of a genus based upon an erroneously determined species.

The presumed data are as follows :—

Tremataspis Schmidt, 1866

Genotype : *T. schrenckii* (Pander) (NOT *Cephalaspis schrenckii* Pander)=*T. schmidti* Rohon, 1892

Witaaspis Robertson, 1939

Genotype : *W. schrenckii* (Pander) (designated in J. Geol., 1939, 47(6) : 651)

(b) According to the demands of *Opinions* 65 and 168, *Tremataspis* must be a doubtful name until a decision is made by the Commission either to declare both *Tremataspis* and *Witaaspis* as valid, under the presumptions listed under (a), or to declare them synonymous.

(c) A “decision” from the Commission is required, but “Suspension of Rules” would not seem to enter into the case. (Here again the Committee [Commission ?] should have formulated a general rule that would enable us to deal with these not uncommon cases.)

The Chairman, personally, wishes to comment on some points raised by Frizzell. Frizzell’s criticism that Robertson regarded a specific name as the type of a genus is contrary to fact. Robertson clearly states that “Pander’s species was the type of *Tremataspis*—” and uses this same concept throughout his petition. In common with many who discuss the question of erroneously determined species as genotypes Frizzell appears to be suffering from semantic confusion as between a name and the thing named. As Robertson clearly indicates the type of a genus is a species and not specimens. But each species is symbolised by a name. Therefore no author should be accused of regarding a *name* as the type of the genus where he actually refers to the species that legitimately bears the name. This is true especially when he defines his position so clearly as Robertson does. In such cases it is the accuser who is confused. But this is no place to argue the merits of the *Opinions* 14, 65 and 168 for it is under the provisions of *Opinions* 65 and 168 that Robertson lays his proposal before the Commission.

Frizzell’s categorical statement on the genotype of *Tremataspis* is erroneous as is evidenced by the numerous cases in which the Commission has ruled in the same tenor under *suspension of the Règles*. At best the question is *sub judice*. Likewise his statement that Robertson designated *W. schrenckii* genotype of *Witaaspis* is contrary to fact. At best it is genotype by monotypy. There was no designation. It is not yet certain that monotypy serves to fix a genotype since the Budapest emendations to Article 25 became effective. (See comments by Secretary Hemming, *Opinion* 6, as reissued, p. 131, footnote 9.) Indeed there is doubt that the name *Witaaspis* as published by Robertson in

1939 is valid and available for this very reason.² Parenthetically, the Commission might well use the status of *Witaaspis* as a case on which to base a ruling settling this vital point. The Chairman, personally, disagrees also *in toto* with Frizzell's points b and c, but does not comment further.

In view of the above vote the Joint Committee on Zoological Nomenclature for Paleontology in America hereby transmits Prof. Romer's resolution to the Commission with its approval.

6. *Issue of Public Notices* : On 29th September 1947 a notice of the possible use, by the International Commission on Zoological Nomenclature, of its Plenary Powers in the present case was issued to the serial publications prescribed by the Ninth International Congress of Zoology, Monaco, 1913. The publication of this notice elicited no objection to the action proposed.

III.—THE DECISION OF THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

7. The present application was considered by the International Commission on Zoological Nomenclature at the Fourteenth Meeting of its Paris Session held at the Sorbonne in the Amphithéâtre Louis-Liard on Monday, 26th July 1948 at 2030 hours. The following is an extract from the Official Record of the Proceedings of the International Commission setting out the decision reached by it in regard to this case at the foregoing meeting (Paris Session, 14th Meeting, Conclusion 6) (1950, *Bull. zool. Nomencl.* 4 : 433—435) :—

THE COMMISSION agreed :—

(1) to use their Plenary Powers :—

(a) to set aside the type designation made by Schmidt

² The issue here referred to by Dr. Brookes Knight was considered in Paris in 1948. The Thirteenth International Congress of Zoology then decided, on the advice of the International Commission, to insert words into Proviso (c) to Article 25 to make it clear that a generic name published after 31st December 1930 with only one included nominal species was to be accepted as a validly published name with the single cited species the type species by monotypy of the nominal genus so established (1950, *Bull. zool. Nomencl.* 4 : 72).

for, and all subsequent selections of type species made prior to the present decision in respect of, the genus *Tremataspis* Schmidt, 1866 (Class Cephalaspidomorphi, Order Osteostraci) ;

- (b) to designate *Tremataspis schmidti* Rohon, 1892, to be the type species of the foregoing genus ;
- (2) to place the generic name *Tremataspis* Schmidt, 1866, with the type species designated in (1)(b) above, on the *Official List of Generic Names in Zoology* ;
- (3) to place the trivial name *schmidti* Rohon, 1892 (as published in the binominal combination *Tremataspis schmidti*) on the *Official List of Specific Trivial Names in Zoology* ;
- (4) to render an *Opinion* recording the decisions specified in (1) to (3) above.

8. The following are the original references for the names which appear in the decision set out in the immediately preceding paragraph :—

schmidti, *Tremataspis*, Rohon, 1892, *Mém. Acad. imp. Sci. St. Pétersb.* (7) 38(13) : 61
Tremataspis Schmidt, 1866, *Verh. russ. min. Ges. St. Petersb.* (2) 1 : 233

9. The gender of the generic name *Tremataspis schmidti*, 1866, referred to in the decision quoted in paragraph 7 above, is feminine.

10. The decision taken in the present case was reported to, and approved by, the Section on Nomenclature of the Thirteenth International Congress of Zoology, Paris, 1948, at its Sixth Meeting held on 16th July 1948 (1950, *Bull. zool. Nomencl.* 5 : 112).

11. The Ruling given in the present *Opinion* was concurred in by the sixteen (16) Commissioners and Alternate Commissioners present at the Paris Session of the International Commission, namely :—

Beltrán *vice* Cabrera ; Boschma ; Bradley ; di Caporiacco ; Hemming ; Hindle *vice* Jordan ; Jorge *vice* do Amaral ; Kirby *vice* Stoll ; Lemche *vice* Dymond ; Mansour *vice* Hankó ; Metcalf *vice* Peters ; Riley *vice* Calman ; Rode ; Spärck *vice* Mortensen ; van Straelen *vice* Richter ; Usinger *vice* Vokes.

12. The Ruling given in the present *Opinion* was dissented from by no Commissioner or Alternate Commissioner present at the Paris Session.

13. At the time of the adoption of the Ruling given in the present *Opinion*, the expression prescribed for the second portion of the binomen which constitutes the scientific name of a species was the expression “ trivial name ” and the *Official List* reserved for recording such names was styled the *Official List of Specific Trivial Names in Zoology*, the word “ trivial ” appearing also in the title of the *Official Index* reserved for recording rejected and invalid names of this category. Under a decision taken by the Fourteenth International Congress of Zoology, Copenhagen, 1953, the expression “ specific name ” was substituted for the expression “ trivial name ” and corresponding changes were made in the titles of the *Official List* and *Official Index* of such names (1953, *Copenhagen Decisions zool. Nomencl.* : 21). The changes in terminology so adopted have been incorporated in the Ruling given in the present *Opinion*.

14. The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Opinion* is accordingly hereby rendered in the name of the said International Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

15. The present *Opinion* shall be known as *Opinion Two Hundred and Twenty-Two (222)* of the International Commission on Zoological Nomenclature.

DONE in London, this First day of December, Nineteen Hundred and Fifty-Three.

*Secretary to the International Commission
on Zoological Nomenclature*

FRANCIS HEMMING